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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,199	03/05/2002	Barend Visser	P-1707	9601

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EXAMINER

MEDINA SANABRIA, MARIBEL

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/11/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,199

Applicant(s)

VISSER, BAREND

Examiner

Maribel Medina

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6,7 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-7,17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- a. In Figure 4, (See specification page 8, lines 1-22): “transformer 43”; “drain source circuit 45”; “MOSFET 38”.
- b. In figures 5(a-d), (See specification page 7, lines 10-15) “train 52”.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

- a. In figure 5, reference number “54”.
- b. In figure 4, reference number “40”.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because:

- a. In figures 5(a-d) and 6(a-d), the x-axis titles of the graphs are illegible.
- b. In figures 6(b-d), the graphs do not show any pulse.

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: in page 9, line 18, the term "Referring to figures 7 and 8" should be changed to --Referring to figures 8 and 9--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent No. 4,038,165 (Lowther).

Lowther discloses a method of producing ozone comprising the step of passing a reactant gas (i.e. oxygen-containing gas) through a corona discharge gap in which a narrow pulse high voltage waveform is applied to the gas (See col. 1, lines 64-68 and col. 2, lines 35-46).

In regards to claim 1, the claimed limitation that reads, “generating intermittent bursts of corona discharge in an electrode region”, would have been inherently provided by the method of Lowther once “the narrow pulse high voltage waveform” of Lowther is applied in the electrode region. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

Lowther discloses a field of sparking potential in the range from 500 to 30,000 volts AC or DC per cm of plate separation (0.05 –3 kV/mm) (See col. 12, lines 60-63); a peak voltage of from 2 to 200 kV (See claim 2); and a narrow pulse width T_w selected to be from 1 to 50 % of the singly charged gas ion transit time (See claim 16). As an example, Lowther discloses a pulse width of 0.066 μ s (66 ns) (See col. 6, line 30).

In regards to the limitation of claims 2 and 17 that reads “intermittent voltage pulses having a slope of at least 2kV/100 ns”; and the limitation of claim 3, that reads “the slope in the order of 3kV/10ns”; these values of the slope are inherently provided by the method of Lowther, since Lowther et al discloses peak values from 2 to 200kV and pulse width ratio of less than 100 ns. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

8. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent No. 4,038,165 (Lowther).

Lowther discloses an apparatus (See figure 1) for producing ozone comprising: a housing (1) defining a passage (12) for a fluid comprising oxygen; an electrode (2,3) disposed

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adjacent to the passage (12); and pulse-generating means connected to the electrode (See figures 3 (24); figure 4 (64); col. 7, lines 20-30; col. 8, lines 38-47; col. 10, and lines 40-44).

Lowther discloses a field of sparking potential in the range from 500 to 30,000 volts AC or DC per cm of plate separation (0.05 –3 kV/mm) (See col. 12, lines 60-63); a peak voltage of from 2 to 200 kV (See claim 2); and a narrow pulse width T_w selected to be from 1 to 50 % of the singly charged gas ion transit time (See claim 16). As an example, Lowther discloses a pulse width of 0.066 μ s (66 ns) (See col. 6, line 30).

In regards to the limitation of claim 6, that reads “the pulse generating means being operative to generate a changing electric field by generating a train of voltage pulses each having a slope of at least 20kV/100ns” this value of the slope is inherently provided by Lowther, since Lowther et al discloses peak values from 2 to 200 kV and pulse width ratio of less than 100 ns. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art was cited on the International Search Report: SU 941 276 B; US 3,883,413; US 4,869,881; JP 09 156904 A; De 19633368; and US 4,713,220.

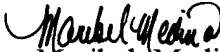
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maribel Medina whose telephone number is (703) 305-1928. The examiner can normally be reached on Monday through Friday from 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (703) 308-3837. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Maribel Medina
Examiner
Art Unit 1754

MM
July 10, 2003